Outdoor 2.4GHz Digital AV Sender - Control PTZ wirelessly Manual V1.0

Please note the metal pole, TV, DVR, Keyboard and PTZ camera are for demo purpose, not included inside the package

A. What is inside the Box?

Please check the following items inside the box for 2.4Ghz Digital AV sender, and contact your dealer if anything is missing:

1. Products body

and

Receiver x 1 **Transmitter x 1**

There will be a product label on the back side to show RX or TX model no.

2. Accessory: for receiver or transmitter

Refer to the following photo, from left to right:

Power Adaptor x 2(100V ~ 240V AC, DC 12V/1A in Jack)

AV cables x 2(3RCA plug to 1 phone plug)

Bracket set x 2(on the bottom row)

This user manual

B. Introduction

Thank you for purchasing this Outdoor 2.4GHz Digital AV Sender. This transmission system is a digital wireless audio/video sender that uses 2.4GHz Frequency Hopping technology(not fixed frequency) and 16QAM/QPSK/BPSK modulation, and random ID codes to protect personal privacy.

There are over billion hopping sequences to minimize interference and deliver consistently an excellent video and audio quality up to 5KM meters away by 200mW transmission power and 14dBi antenna.

Using this 2.4GHz Digital Wireless A/V Sender, you can enjoy greater convenience and security in many ways:

Safety & Security Application:

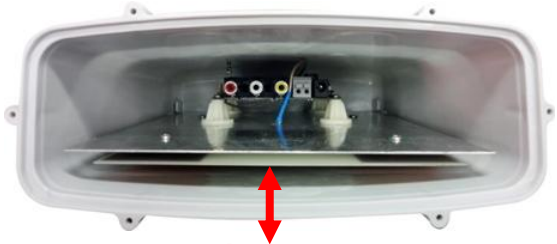
- Connect a PTZ camera as a wireless security system, control its Pan/Tilt/Zoom actions via RS485 port from the receiver(RX), through PTZ keyboard or DVR with PTZ function
- With weather proof enclosure for TX/RX, suitable for outdoor like farm, mountain, park, sea port, and big garden

C. Product Layout and wire connection

Bottom view for TX/RX

Weather proof super cable gland

Dissemble the screws and super cable gland, and open the bottom cover, you can see **bottom cover and enclosure** as below:

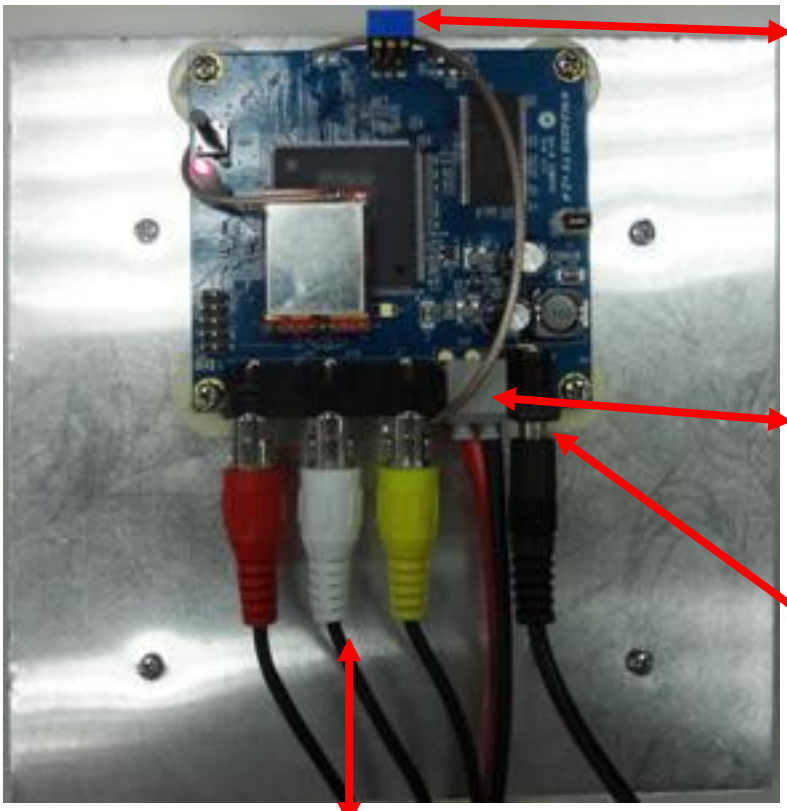


Panel Antenna PCBA

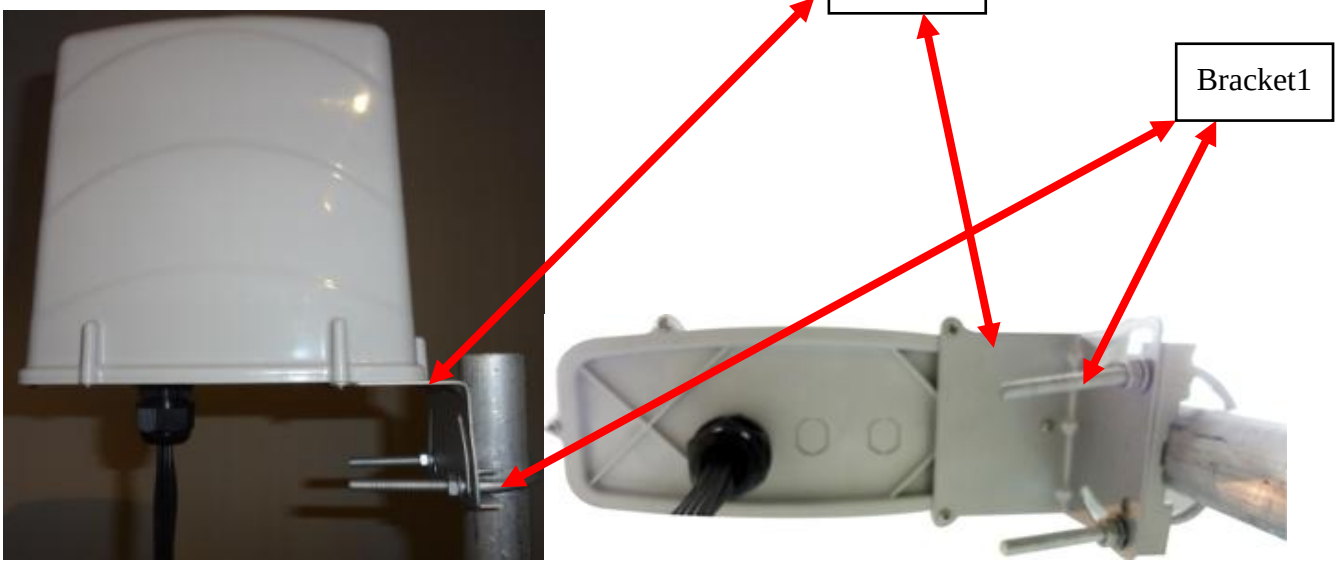
Bottom cover

Panel Antenna side for TX/RX, must be directional to each other in the installation

TX(Transmitter) and RX(Receiver) – open the bottom cover and take off the enclosure as below


DIP Switch for PAL/NTSC, Baud Rate, and NTSC/PAL
RS485 port to connect PTZ camera(TX) or DVR/PTZ Keyboard(RX)
DC jack for power adaptor
AV Jack for PTZ camera input(TX) or output to TV monitor/DVR

Brackets installation

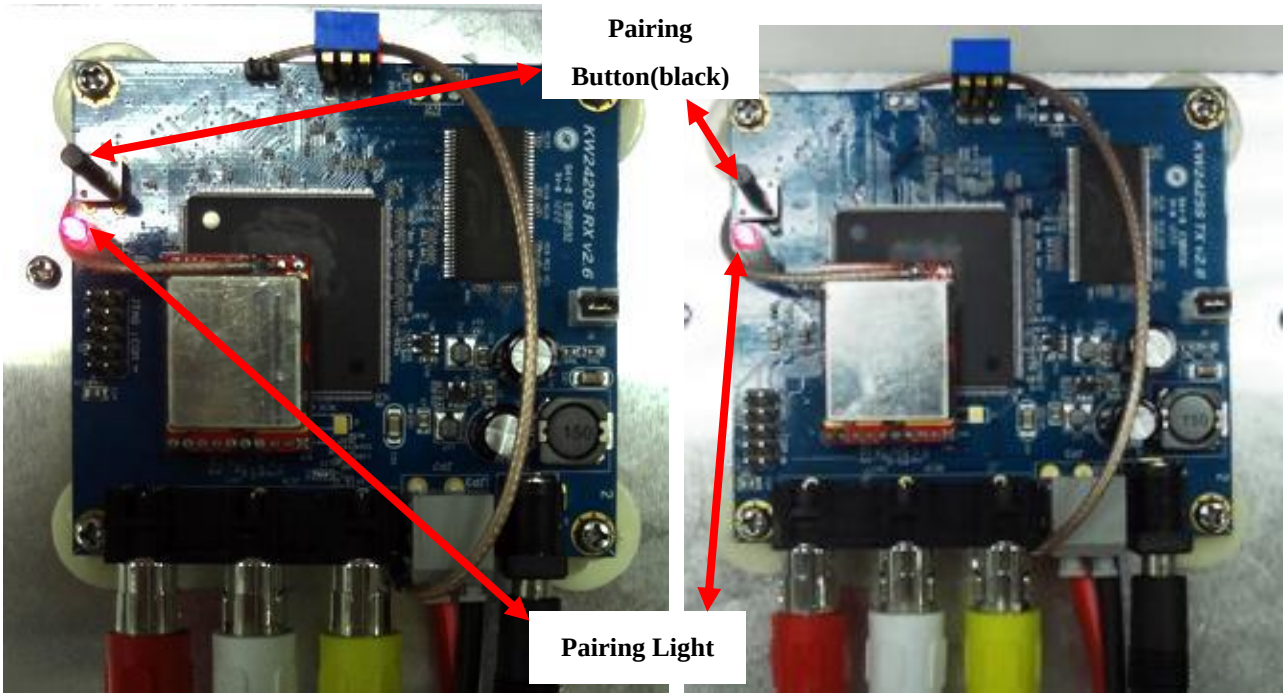


There are two brackets – bracket 1 to secure on the metal pole, bracket 2 to secure the enclosure bottom and bracket1.

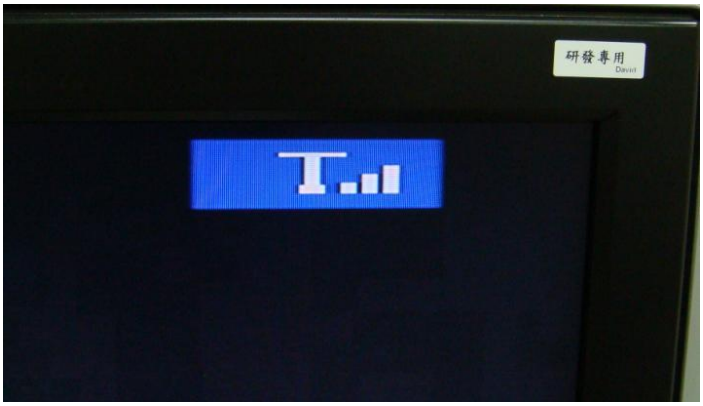
D. Pairing the transmitter and receiver

Before shipment of these products, they have been matching by ID code if putting in one box, you can immediately instantly use. If wants to re-pair them, you have to follow the instructions as below:

1. Power on the transmitter and receiver by inserting the power adaptor jack.
2. Press the pair button of transmitter or receiver and not release until the power LED begin to flash, then release the pair button.
3. They will enter into the pairing state and automatically link to each other by ID code after step 2 finished.
4. Please don't turn off their power switch during the paring status.
5. When pairing successfully, the power LED for both will be lit directly (not flash)



Please note:
Pressing the pairing buttons for transmitter and receiver is not necessary at the same time, and they are not necessarily put near or side by side in pairing status, around within 3 meters far is OK. Under the transmission, you can see the strength signal on the monitor(RX) as below, and will disappear after 5 seconds; press RX pairing button will make it shown again

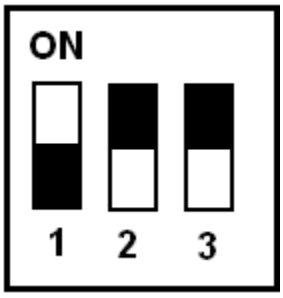


E. RS485 control wirelessly

RS485 of TX can connect PTZ Camera RS485 port, and the RX RS485 port connect out to RS485 port of PTZ keyboard or DVR, so that keyboard or DVR can control its Pan/Tilt/Zoom actions wireless and long distance; please note the PTZ protocol used for this system is only **Pelco P or Pelco D,** they are **auto detect,** and must be same in the PTZ camera and PTZ keyboard or DVR, baud rate are **9600bps/4800bps/2400bps/1200bps**, you have to setup the PTZ camera/this system(TX/RX)/PTZ keyboard or DVR with same baud rate.

Baud Rate setup – please find the DIP switch

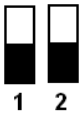
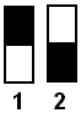
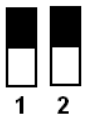
on the PCBA as below:



where DIP 3 -

is PAL,

is NTSC, baud rate is below:

Baud Rate	DIP 1	DIP 2	Switch
1200	OFF	OFF	
2400	OFF	ON	
4800	ON	OFF	
9600	ON	ON	

When RX output to TV monitor or DVR, the screen will show PTZ camera information as below:

this information will disappear shortly.

F.Use Notics

1. Be sure the transmitter and the receiver were connected to the equipment correctly (e.g. Connect the transmitter to the camera, and the receiver to the TV or DVR).
2. When DC plug is pulled out from transmitter or receiver, it needs to wait for a few seconds to insert it again.
3. Adjust antenna to decrease interference. (vertical or horizontal)
4. In most situations, one pair has a better distance up to 3~5KM (line of sight and open site). When two pairs or more are used at the same time, It can automatically jump to different channels. But the distance between transmitter and transmitter (receiver and receiver), preferably greater than 3 meter far.

G. Troubleshooting

Problems	Possible Solution
Monitor(RX) shows "No Video Signal"	Camera power off or stolen, camera cable disconnected or damaged, please check and make it right
Monitor(RX) shows "No Signal"	TX power off; TX/RX distance is too long, so that transmission signal is weak, please check and make it right
No picture or sound	Check all cable connections
	Make sure power plugs are pushed all the way in
	Check power switches on the remote TV or DVR and Video source(Camera, Camcorder, etc.)
	Check if the POWER LED of the transmitter and receiver is lighting or not? Their LINK LED should be lit.
	If Their LINK LED not be lit, you must re-pair their codes following the D. instruction of the manual
Interference: picture or audio	Adjust receiver and transmitter antenna orientation
	Try to place transmitter and receiver a little more close
	The transmission path between the pair may be overlapped to the other pair, must install higher position or separate these two pairs
	There would be a high power pair unit near by TX or RX, please find it and move

H. Specifications

Transmitter:

Operating Frequency Band 2.400GHz~2.4835GHz

Modulation 16QAM/QPSK/BPSK

Video Input Level 1V p-p @ 75 ohm

Audio Input Level 1V p-p @ 600 ohm (STEREO)

RS485 port – control Pelco D or Pelco P protocol PTZ camera

Baud rate – 9600/4800/2400/1200 bps by DIP switch

Antenna - Directional Panel Antenna 14dBi

PA Output Power – 200mW

Antenna Output Power – 3WATTS(EIRP)

Power consumption 1.9W

Power supply 12V/1A

Enclosure – ABS material

Dimension 25cm x 24cm x 7.7cm

Weight 420gw

Receiver:

Operating Frequency Band 2.400GHz~2.4835GHz

Modulation 16QAM/QPSK/BPSK

Receiver Sensitivity -85dBm min.

Video Output Level 1±0. 2V p-p @ 75 ohm

Audio Output Level 1±0. 2V p-p @ 600 ohm (STEREO)

RS485 port – control Pelco D or Pelco P protocol PTZ camera

Baud rate – 9600/4800/2400/1200 bps by DIP switch

Antenna - Directional Panel Antenna 14dBi

PA Output Power – 200mW

Antenna Output Power – 3WATTS(EIRP)

Power consumption 1.9W

Power supply 12V/1A

Enclosure – ABS material

Dimension 25cm x 24cm x 7.7cm

Weight 420gw

System:

Transmission channels 26 channels auto selection

Video bit rate up to 12 Mbps

Random ID code up to 4 million sets

Video resolution 720 x 480 @ 30 fps (NTSC) or 768 x 576 @25 fps (PAL)

PTZ camera control wirelessly - Pelco D or Pelco P auto detect

Baud rate –9600/4800/2400/1200 bps

Operational range up to 5KM meters (line of sight and open site)

Operation temperature - -20℃~65℃

•All specification subject to change without notice